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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,523	11/25/2003	Andrew Ciezak	LCB402	5334
32915	7590	09/23/2004	EXAMINER	
PANDUIT CORP. LEGAL DEPARTMENT - TP12 17301 SOUTH RIDGELAND AVENUE TINLEY PARK, IL 60477			GUSHI, ROSS N	
			ART UNIT	PAPER NUMBER
			2833	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/721,523	Applicant(s) CIEZAK ET AL.	
	Examiner Ross N. Gushi	Art Unit 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 31-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23, 25-30 and 40-42 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-30 and 40-42, drawn to connectors, classified in class 439/676.
- II. Claims 31-39, drawn to methods for providing balance in connectors, classified in class 29.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the connectors can be made without measuring the unwanted phenomenon and altering the distance between pins. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Attorney Clancy on 9/7/04 a provisional election was made with traverse to prosecute the invention of Group 1, claims 1-30 and 40-42. Affirmation of this election must be made by applicant in replying to this Office action. Claims 31-39 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

Claim 29 is objected to because it does not state which claim it is dependent on. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 29 and 30, the limitations regarding adding inductance or inductive balance etc. are indefinite because they presuppose one condition and claim a change to that condition. The structure is what it is and claiming a connector with balance added is indefinite. The limitations are given little weight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-15, 19-21, 23, 25-30, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaouen in view of Ikeda et al. ("Ikeda").

Regarding claim 1, Jaouen discloses an electronic connector for use with an electrical connection device, the electronic connector comprising: at least one first conductor (1-8) providing an interface with the electrical connection device, the at least one first conductor having a shape that provides a predetermined capacitive and inductive balance in the electronic connector; and a conductor support device (131, 135) to support the at least one first conductor. To the extent that Jaouen does not explicitly discuss the capacitive and inductive balance, Ikeda discusses the well known proposition that the terminals may be arranged and configured to optimize the transmission characteristics (conductive and inductive balance) and prevent crosstalk for example by changing the gaps between terminals and by changing the dimensions and shapes of the terminals (see e.g. Ikeda col. 10, lines 10-30). At the time of the invention, it would have been obvious to configure and arrange the Jaouen terminals to have a desirable transmission characteristics, as taught by Ikeda and as is well known in the art. The suggestion or motivation for doing so would have been to prevent signal degradation as taught in Ikeda and as is well known in the art (see e.g. Jaouen columns 1 para 0012 to col. 2 para 0019).

Per claim 2, (as modified) the shape of the at least one first conductor compensates for at least one of a capacitive and an inductive imbalance.

Per claim 3, the at least one first conductor comprises a plurality of integrally formed compliant pins, each of the compliant pins comprising: a bent portion (1B-8B)

Art Unit: 2833

that provides the interface with the electrical connection device; a contact point (1'-8') opposite the bent portion; and at least one compensation section (1A-8A) disposed between the bent portion and the contact point.

Per claim 4 the plurality of compliant pins are formed in at least one layer.

Per claim 5, the contact points are arranged in parallel rows.

Per claim 6, the at least one layer includes at least two layers, and the shape of the at least one first conductor may be changed to provide the desired electrical characteristics by altering a distance between the at least two layers.

Per claim 7, the shape of the at least one first conductor may be changed to provide the desired electrical characteristics by altering a distance between the at least two compensation sections.

Per claim 8, the at least one layer includes at least two layers, the at least one compensation section includes at least two compensation sections, and the shape of the at least one first conductor may be changed to provide the desired electrical characteristics by altering a distance between the at least two layers and the at least two compensation sections.

Per claim 10, the Jaouen conductor support device includes a conductor carrying sled 150, each of the plurality of integrally formed compliant pins being attached to the conductor carrying sled to contact the electrical connection device.

Per claim 11, the conductor support device includes a conductor housing 110, each of the plurality of integrally formed compliant pins being attached to the conductor housing to contact the electrical connection device.

Per claim 12, the conductor is conductive.

Per claim 13, Jaouen discloses a housing 110 defining a contact connecting portion to house the conductor support device, a connecting device 140 connected to the compliant pins at the contact points; at least one second conductor 143 having a contact portion and a bifurcated portion, the at least one second conductor being connected to the connecting device at the contact portion; a rear sled portion 150 having at least one slot to receive the bifurcated portion of the at least one second conductor, the rear sled being engageable with the housing; and a wire containment fixture 160 to position at least one wire for engagement with the bifurcated portion of the at least one second conductor, the wire containment fixture being engageable with the rear sled.

Per claim 14, the connecting device electrically and mechanically mates the at least one first conductor and the at least one second conductor.

Claims 15 19, 20, 21, 28-30, and 40 are rejected for the reasons pertaining to claims 1-13

Regarding claim 23, to the extent that Jaouen does not state that the insulating parts are made of synthetic resin, Ikeda states that the conductor support body is made of resin (col. 14, line 55). At the time of the invention, it would have been obvious to make the Jaouen insulative parts out of resin as taught in Ikeda. The suggestion or motivation for doing so would have been to simplify manufacturing of the parts, such motivation being well known in the art.

Regarding claim 25, as taught in Jaouen and Ikeda, the entire terminal, including the bent portions may be configured to reduce crosstalk. At the time of the invention, it would have been obvious to configure the bent portion to reduce crosstalk. The suggestion for doing so would have been to reduce crosstalk.

Per claim 26, Jaouen discloses straight portions extending from the bent portion, the straight portions extending away from the bent portion at an angle (see terminals 1, 2, 7 8).

Per claim 27, as taught in Jaouen and Ikeda, the entire terminal, including the bent portions may be configured to reduce crosstalk. At the time of the invention, it would have been obvious to configure the bent portion to reduce crosstalk. The suggestion for doing so would have been to reduce crosstalk.

Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaouen and Ikeda as in claims 1 and 13 in view of Reede. Jaouen does not specifically state that the conductor reduces at least one of near-end cross-talk, far-end cross-talk, return loss and insertion loss. Reede discloses that the terminals (46, 48, 50) may be shaped to reduce near end crosstalk and far end crosstalk. At the time of the invention, it would have been obvious to configure the Jaouen terminals to reduce at least one of near-end cross-talk, far-end cross-talk, return loss and insertion loss as taught in Reede. The suggestion or motivation for doing so would have been to prevent signal degradation as taught in Reede.

Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaouen and Ikeda as in claim 13, in view of Doorhy et al. ("Doorhy"). Regarding

claims 17 and 18, Jaouen does not state if the circuit board 140 includes at least at least three layers that includes outer layers containing a plurality of conductive traces that interconnect the at least one first conductor and the at least on second conductor. Doorhy discloses a circuit board 50 that includes at least at least three layers that includes outer layers containing a plurality of conductive traces that interconnect the at least one first conductor and the at least on second conductor. At the time of the invention, it would have been obvious to modify the Jaouen board to include at least at least three layers that includes outer layers containing a plurality of conductive traces that interconnect the at least one first conductor and the at least on second conductor. The suggestion or motivation for doing so would have been to provide signal conditioning in the board so as to reduce signal degradation as taught in Doorhy.

Claims 22, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaouen and Ikeda as in claim 13, in view of Pepe et al. ("Pepe"). Jaouen does not show a hoop or stirrup snap. Pepe discloses rear sled portion 34 connected to the housing 12 by a hoop or stirrup snap (42, 16). At the time of the invention, it would have been obvious to attach the Jaouen sled and housing using well known techniques such as snaps as taught in Pepe. The suggestion or motivation for doing so would have been to facilitate attachment of the sled and housing as taught in Pepe.

Allowable Subject Matter


Claims 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims. Regarding claim 24, the prior art does not suggest the connector as claimed, including the combination of all the claimed elements, the combination including the stepped portion as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross Gushi whose telephone number is (571) 272-2005. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Paula A. Bradley, can be reached at 571-272-2800 extension 33. The phone number for the Group's facsimile is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ROSS GUSHI
PRIMARY EXAMINER